

GLUSHKOV, V.

"New Type of Forge in the Machine Shop." Tr. from the Russian, p. 515, Praha, Vol. 3, no. 7, July 1953.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

GLUSHKOV, V.N., inzhener

Selection of heat energy carriers for the preheating of parts  
manufactured in forging and stamping plants. Vest.mash.35

no.7:61-66 J1'55.

(MLRA 8:10)

(Steel forgings) (Sheet-metal work)

GLUSHKOV, V.N., inzh.

Selecting methods for annealing billets in forging and stamping  
shops. Vest. masn. 38 no.1:56-62 Ja '58. (MIRA 11:1)  
(Furnaces--Heat treating) (Forging)

GLUSHKOV, V.N.

Problems of the seven-year plan; main trends in the development of forging and stamping shops at tractor plants. Nauch. dokl. vys. shkoly; mash. i prib. no. 4:22-26 '58.

(MIRA 12:5)

(Tractors--Design and construction)

(Sheet-metal work)



GLUSHKOV, V.N.; BOGDAN, A.D.

Indices of the technical standard of operations in forging shops.  
Kuz.-shtan.proizv. 1 no.5:37-41 My '59. (MIRA 12:10)  
(Forging)

GLUSHKOV, V.N.

Selecting the energy carrier for continuous heating of metals.  
Nauch. dokl. vys. shkoly; mash. i prib. no.2:151-158 '59.

(MIRA 12:12)

(Furnaces, Heating)

GLUSHKOV, V.N.

Technological conference on the economy of ferrous and nonferrous  
metals and of electric power. Kuznetskaya, protav. 2 no. 8:3 of cover  
Ag '60. (MIRA 14:2)

(Metalwork--Congresses)

GLUSHKOV, V.N.

Selecting a power carrier for the heating of blanks in a forge.  
Kuz.-shtam. proizv. 3 no.3:33-35 Mr '61. (MIRA 14:6)  
(Forge shops--Equipment and supplies)  
(Lithium)

GLUSHKOV, V.N., inzh.

Some problems in the reorganization of forge and stamping shops.  
Vest.mash. 41 no.7:58-62 J1 '61. (MIRA 14:6)  
(Forge shops---Technological innovations)

GENSHKOV, V.N.; BOYCHENKO, A.N.

High energy machines. Kuz.--shtam, proizv. 5 no.2:23-27 P 163.  
(MIRA 1642)

(United states--Forging machinery)

GLUSHEV, V. N.

Scientific-technological conference "Progressive methods of metal  
heating: new theories and designing methods" 22-24 March  
of heat treatment. Moscow, 1964. 50 p. 8403 of paper  
16 cm. (1964)

Subject:

1. The document contains forged letters for or messages in the  
United States and West Germany. (Tech. econ. inform.,  
tech. econ. inform., inst. econ. : tech. inform. 17 n.s.  
1985-1986)

**"APPROVED FOR RELEASE: 09/24/2001**

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**APPROVED FOR RELEASE: 09/24/2001**

**CIA-RDP86-00513R000515420020-2"**

GILBERT V. V. S., born.

The second scientific technical conference on defense. West.  
Washington, 45 no. 4: 1-10. Apr 1965. (NII, 1965)

GLUSHKOV, V.N.

Serbia scientific and technical conference on metal heating.  
Kuz.-stam.proizv. 7 no.1847 P '65.

(MIRA 18:4)

MANUKYAN, A.A.; GLUSHKOV, V.P.; SHVEDKOVA, V.M.; SVIRIDOVA, Z.P.; CHEBOTAREVA, Ye.A.; SHUMILIN, V.I.; PUDINA, K.V.; BRAGINA, E.M.; LUTSKAYA, Ye.Ye.; KODACHENKO, A.S.; KOSOVA, V.A.; MOKLYARSKIY, B.I.; GRECHIKHIN, A.A.; KULIKOV, N.I.; RYDVANOV, N.P.; BEL'CHUK, A.I.; VINTSER, Yu.I.; ROZENTAL', Ye.I.; BELOUS, T.Ya.; SIDOROV, V.F.; ZHDANOVA, L.P.; ALEKSANDROVSKAYA, L.I.; KOVAL', V.V.; KHAVINSON, Ye.S., glavnyy red.; SOKOLOV, I.A., zam.glavnogo red.; ALEKSEYEV, A.M., red.; ARZUMANYAN, A.A., red.; BELYAKOV, A.S., red.; BECHIN, A.I., red.; VARGA, Ye.S., red.; LEMIN, I.M., red.; LYUBIMOVA, V.V., red.; SKOROV, G.Ye., red. V redaktsirovaniy uchastvovali: SHAPIRO, A.I., red.; TATISHCHEV, S.I., KOVRIGINA, Ye., tekhn.red.

[Economic conditions of capitalistic countries; review of business conditions for 1958 and the beginning of 1959] Ekonomicheskoe polozhenie kapitalisticheskikh stran; kon'iunktornyiy obzor za 1958 g. i nachalo 1959 g. Moskva, Izd-vo "Pravda," 1959. 127 p. (Prilozhenie k zhurnalu "Mirovaya ekonomika i mezhdunarodnye otnosheniya," no.8, avgust 1959 g.) (MIRA 12:9)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy. 2. Kollektiv sotrudnikov kon'iunktornogo sektora Instituta mirovoy ekonomiki i mezhdunarodnykh otnosheniy AN SSSR (for Glushkov, Shvedkova, Sviridova, Chebotareva, Shumilin, Pudina, Bragina, Lutsкая, Kodachenko, Kosova, Moklyarskiy, Grechikhin, Kulikov, Rydvanov, Bel'chuk, Vintser, Rozental', Belous, Sidorov, Zhdanova, Aleksandrovskaya, Koval'). (Economic conditions)

GLUSHKOV, V.P., kand. ekon. nauk; POKROVSKIY, A.I., kand. ekon. nauk; VEHER, A.B., kand. istor. nauk; VASIL'KOV, N.P., kand. ekon. nauk; ARDAYEV, G.B., kand. ekon. nauk; TIMASHKOVA, O.K., kand. ekon. nauk; KHMEL'-NITSKAYA, Ye.L., doktor ekon. nauk, otv. red.; PANTELEYEV, V.I., red. izd-va; RYLINA, Yu.V., tekhn. red.

[Government ownership in Western Europe] Gosudarstvennaya sobstvennost' v stranakh Zapadnoi Evropy. Moskva, Izd-vo Akad. nauk SSSR, 1961. 463 p. (MIRA 14:11)

1. Akademiya nauk SSSR Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy. 2. Sektor stran Zapadnoy Yevropy Instituta mirovoy ekonomiki i mezhdunarodnykh otnosheniy AN SSSR (for all except Panteleyev, Rylyna).

(Europe, Western--Government ownership)

KILESSO, A.I.; FARAMAZYAN, R.A.; KONONYUK, B.Z.; MARTINSEN, Z.A.;  
ANDREYEV, Yu.V.; SLAVIN, S.V.; RUSSETSKIY, S.B.; GLUSHKOV,  
V.P., otv. red.; PLISKINA, Ye.M., red.; TIKHOMIROVA, S.G.,  
tekhn. red.

[The shipbuilding industry of capitalist countries] Sudo-  
stroitel'naya promyshlennost' kapitalisticheskikh stran.  
Moskva, Izd-vo AN SSSR, 1963. 471 p. (MIRA 16:10)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezh-  
dunarodnykh otnosheniy.

(Shipbuilding)

AVERIN, Yu.A., inzh.; GLUSHKOV, Ye.F., inzh.; KARYAKIN, M.N., inzh.

Investigating the power factor of a.c. electric traction systems  
used in rectifier electric locomotives. Trudy TSNII MPS no.156:33-48  
'58. (MIRA 11:8)

(Electric locomotives) (Mercury-arc rectifiers)

REBRIK, B.N., kand.tekhn.nauk; GLUSHKOV, Ye.F., inzh.

New H60 a.c. locomotives. Vest.TSNII MPS 18 no.8:15-21 D  
'59. (MIRA 13:9)

(Electric locomotives)

TIKHOMIREV, B.N., doktor tekhn.nauk; REBRIK, B.N., kand.tekhn.nauk; GLUSHKOV,  
Ye.F., inzh.

Ways of improving the N60 diesel locomotive. Vest.TSNII MPS 20 no.3:  
3-9 '61. (MIRA 14:5)

(Diesel locomotives)

GIP No. 1, Tech., Inst.

reduces from current pulsation and the economic advantages of  
smoothing reactors. Vest, TENII MKS 24 no.1:9-12 '65.

(MIRA 18:6)

GLUSHEV, Y. I. 1965.

Parameters of rectified current circuits on VL60 and VL80-005  
electric locomotives, Trudy TSNII MPS no.286183-92 '65.

(MIRA 18:8)

REBRIK, B.N., kand.tekhn.nauk; GLUSHEKOV, Ye.F., inzh.

Studying the performance of the ignitrons of a.c. electric locomotives.  
Trudy TSNII MPS no.286.131-139 '65.

(MIRA 18:3)

2/1/000  
2/1/000

AUTHORS: Penomenov-Stepney, A. L. Pashkev, E. S.

TITLE: Some problems of the physical design of a reactor for physical design of a reactor

PERIODICAL: Atomnaya energiya, v. 11, no. 1, 1966, pp. 25-35

TEXT: The physical design of a reactor consists in the solution of the following theoretical problem: To arrive at a given distribution law for the specific heat loss or spatial arrangement of the materials in the reactor. Some methods are described for treating the problem mathematically. There are two cases to be considered, depending on the construction of the core: 1) reactors for which the heat-removing surface per unit volume of the core remains constant in the design of the core, and 2) reactors for which the heat-removing surface per unit mass is constant. The first case is treated first. The law of the heat escape distribution (per unit volume of the core) is given. The following calculations are made along general lines: Calculation of a thermal reactor core. One obtains

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Some methods of ...

3/08/61/01/00/003/010  
B102/0212

$$\begin{aligned} D^2 \psi(r) &= \frac{1}{r^2} \left( S_0(r) \chi(u) \right) \\ D^2 \psi(r) &= \sum_{n=1}^{\infty} \frac{1}{r^n} \left( \sum_{k=1}^{\infty} a_{nk} \chi_k(u) \right) \\ S_0(r) &= \chi^2 \sum_{k=1}^{\infty} a_{k0} \chi_k(u) \end{aligned} \quad (3)$$

its solution according to formula (3) is given

$$\begin{aligned} Q_0(r) &= \frac{S_0(r)}{e^{m_0} n_0(r) \sigma_0^2} \\ n_0(r) &= \sum_{n=1}^{\infty} B_n \chi_n(r) \\ B_n &= A_n \frac{\int_{-a}^{u_{n-1}} \chi(u) e^{-\frac{1}{2} \frac{u^2}{a^2}} \frac{1}{\sqrt{2\pi} a} du}{\sum_{n=1}^{\infty} (1 + a_n^2 L_n^2)} \end{aligned}$$

Card 2/7



Some methods of ...

S/009/01/001/001/003/010  
 11.12.11

$$\phi(r) = \frac{S_0(r)}{\sqrt{\sum_{i=1}^n \frac{1}{v_i^2}}}. \quad (13)$$

This equation represents the continuity condition for the reactor. Calculation of intermediate reactors. The neutron - physical problem is not analytically solvable in this case; recourse must be had to numerical methods. One possibility, for example, is the method of successive approximations with respect to the concentration of the fissile matter. In zeroth

approximation,  $\phi_0(r) = S_0(r)/J^0(r)$ , where  $J^0(r)$  is calculated according to formula (2). With this value and the known  $S_0(r)$  and law  $J^0(r)$

$= S_0(r)/J^1(r)$ , and so on, till the ratio  $S_0(r)/J^1(r) : J^0(r) = J^1(r)$  in the pth approximation is a constant quantity. If the distribution law of heat emission is referred to the unit mass of the fissile material, it coincides for the thermal neutrons with the law of thermal neutron flux distribution. The problem of physical design in this case consists in a solution of the reactor equations for a given thermal neutron distribution  $\phi_0(r) = \phi(r)$  in

Card 4/7

Some methods of ...

10/10/1970

the core. This system is ... sequentially  
in the manner of ... group  
and stopping with ... reflector with  
 $n_{\text{v}} = \text{const}$  in the ... for the core read

$$\begin{aligned} D^{\text{v}} \nabla n_{\text{v}} &= \Sigma^{\text{v}} n_{\text{v}} - \nabla^{\text{v}} \Sigma^{\text{v}} n_{\text{v}} \\ D^{\text{v}} \nabla n_{\text{v}} &= \Sigma^{\text{v}} n_{\text{v}} - \Sigma^{\text{v}} n_{\text{v}} - \Sigma^{\text{v}} n_{\text{v}} \end{aligned} \quad (14)$$

and for the reflector

$$\begin{aligned} D^{\text{v}} \nabla n_{\text{v}} &= \Sigma^{\text{v}} n_{\text{v}} - \nabla^{\text{v}} \Sigma^{\text{v}} n_{\text{v}} \\ D^{\text{v}} \nabla n_{\text{v}} &= \Sigma^{\text{v}} n_{\text{v}} - \Sigma^{\text{v}} n_{\text{v}} - \Sigma^{\text{v}} n_{\text{v}} \end{aligned} \quad (15)$$

With the boundary conditions

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11/11/81/001/003/010  
11/11/81

Some methods of ...

$$\left. \begin{aligned} n\psi_0 &= n\psi_0; \\ n\psi_1 &= n\psi_1; \\ D^2 \nabla_n n\psi_0 &= D^2 \nabla_n n\psi_0 + \Delta^2 \Delta n\psi_0; \\ D^2 \nabla_n n\psi_1 &= D^2 \nabla_n n\psi_1 + \Delta^2 \Delta n\psi_1. \end{aligned} \right\} (18)$$

one obtains as solution for the first system

$$\begin{aligned} n\psi_0 &= B \sum_{l=0}^{\infty} \{1 + f(r)\}, \\ n\psi_1 &= B, \end{aligned} \quad (19)$$

and for the second

$$\begin{aligned} n\psi_0 &= B A_1' \psi_1'(r); \\ n\psi_1 &= B \{A_1' \psi_1'(r) - A_2' \psi_2'(r)\}. \end{aligned} \quad (20)$$

Card 6/7

Some methods are ...

S/089/61/011/001/003/010  
B102/E214

where  $f(\vec{r}) = \frac{1}{r_0^2} \left( \frac{1}{r_0^2} + \frac{1}{r_0^4} \right) f(\vec{r})$  is the solution of the equation  $\nabla^2 \psi = \lambda^2 \psi$ ,

$$x_1' = \left( 1 - \frac{r_1'}{r_0^2} \right) \frac{\sum_{i=1}^n \frac{1}{r_i^2}}{\sum_{i=1}^n \frac{1}{r_i^4}} \quad \text{where are 4 figures and 2 decimals: } 0.0011$$

also are 2 more, first-order.

SUBMITTED: Jul. 7, 1960

✓

Case 7/7

S/089/62/C12/505/C11/C14  
B102/B104

24 0027  
AUTHORS: Ponomarev-Stepney, N. N., Glushkov, Ye. S.

TITLE: The problem of physical profiling of the heat release in heterogeneous power reactors

PERIODICAL: Atomnaya energiya, v. 12, no. 5, 1962, 410-419

TEXT: Physical profiling of heat production in a homogeneous reactor has been considered in a previous paper (Atomnaya energiya, 11, no. 1, 19, 1961). A heterogeneous reactor is now considered and profiling is carried out in two-group approximation for a homogenized reactor working with

pure fissile material as fuel. With  $\bar{n}\bar{v}_2^{(5)} F = S = \text{const}$  as the

profiling condition (demand for constant specific volume heat production) the two-group reactor equations

$$D_1 \bar{n}\bar{v}_1 - \frac{1}{c_1} \bar{n}\bar{v}_1 + \frac{1}{c_2} \bar{n}\bar{v}_2 = 0; \quad (1)$$

$$-D_2 \bar{n}\bar{v}_2 + \frac{1}{c_1} \bar{n}\bar{v}_1 - \frac{1}{c_2} \bar{n}\bar{v}_2 - \frac{1}{c_2} \bar{n}\bar{v}_2 = 0.$$

Card 1/3

The problem of physical profiling of ...

3/089/62/012/005/011/014  
B102/B104

can be written as

$$\left. \begin{aligned} D_1 \nabla^2 \bar{n}_1 - \Sigma_1 \bar{n}_1 + v_1^2 / 6B = 0; \\ D_2 \nabla^2 \bar{n}_2 + \Sigma_1 \bar{n}_1 - f_0 B + \rho_0 \bar{n}_2 E = 0. \end{aligned} \right\} \quad (3).$$

$\bar{n}_1$  is the macroscopic absorption cross section for the fuel,  $\bar{n}_2$  is for the remaining material,  $\rho_0$  is the nuclear fuel density in the lumps,  $\Sigma_1$  - moderator nuclear density,  $f_0 = V/V_1$ ,  $V_1$  - lump volume,  $V$  - cell volume;  $\beta = nv_1/nv_2 = \text{const}$ ;  $\beta = nv_2/nv_1 = \text{const}$ ;  $nv_1$ ,  $nv_2$  and  $nv_3$  are the mean neutron fluxes in cell, lump and moderator;  $\sigma_1$ ,  $\sigma_2$  and  $\sigma_3$  are the microscopic absorption cross sections for fuel, moderator and fuel diluent ( $\sigma_3 = 0$ ).  $\beta$  is the mean number of secondary neutrons per thermal neutron capture,  $D$  - neutron diffusion coefficient.

$\Sigma_1$  - macroscopic slowing-down cross section. The subscripts 1 and 2  
Card 2/3

The problem of physical profiling of ... 3/289/2/012/005/011/014  
B102/B104

refer to the external neutron. The unknown functions  $\overline{nv}$ ,  $\overline{nv}$ ,  $\overline{v}$ , and  $\overline{v}$  can be obtained if additional relations between them are known. In principle,  $\overline{nv}$  can be determined from the reactor design.  $\overline{nv}$  is a known function of the radius in the core,  $\overline{nv} = \text{const}$ ,  $\overline{v} = \text{const}$ , or  $\overline{v}$  is a known function of the coordinates. Such possibilities are discussed in detail.

SUBMITTED: April 27, 1961

Card 5/5

3/359/34/312/335/312/014  
3102/3104

26.0021

Author: Kondratyev, M. S., Gushkov, N. S.

Title: Solution of reactor equations with allowance for variable  
character of density in physical problems

Journal: Atomnaya energiya, v. 11, no. 1, 1963, 41-44

Summary: A method is proposed for longitudinal energy release profiling with  
a given fission neutron source distribution. The variation of moderator  
density along the reactor is taken into account. The problem is solved in  
two-group approximation, assuming that the specific energy release is a  
given function of the coordinates. The reactor equations in plane  
geometry

$$\left. \begin{aligned} \frac{d}{dx} \left( D_1 \frac{d}{dx} n v_1 \right) - \Sigma_1 n v_1 - S_0(x) &= 0; \\ \frac{d}{dx} \left( D_2 \frac{d}{dx} n v_2 \right) + \Sigma_1 n v_1 - \Sigma_2^s n v_1 - \Sigma_2^a n v_2 &= 0, \end{aligned} \right\} (1)$$

with  $S_0(x) = \frac{1}{\sigma} \frac{d}{dx} \sigma v_1$  is a given coordinate function and

Card 1,3

Solution of problem (1) is given by ...

$$\frac{S_1(0)S_2(0)}{S_1(0)S_2(0)} = \frac{S_1(0)S_2(0)}{S_1(0)S_2(0)}$$

$$D_1 = \frac{D_1^0}{\beta(x)} = \Sigma_1 = \Sigma_1^0 \beta(x); \quad \Sigma_2 = \Sigma_2^0 \beta(x)$$

is written as

$$\left. \begin{aligned} D_1^0 \frac{d^2 u_1}{dy^2} + \Sigma_1^0 u_1 &= \frac{S_1(x)}{\beta(x)} \\ D_2^0 \frac{d^2 u_2}{dy^2} + \Sigma_2^0 u_2 &= \frac{S_2(x)}{\beta(x)} \end{aligned} \right\} \quad (4)$$

$dy = \beta(x) dx.$

Since  $\beta(x)$  is a known coordinate function. Then the system (4) can be represented as  $d^2 u/dy^2 = L u = \alpha(x) u$ , with

End of

Solution of the equations ...

3/000/62/002/115/01/012  
3102/2104

$$Q = \begin{pmatrix} \frac{1}{v_0} \\ \frac{d}{dy} n v_1 \\ \frac{d}{dy} n v_2 \end{pmatrix}$$

$$\hat{L} = \begin{pmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ \frac{1}{v_0} & 0 & 0 & 0 \\ -\frac{\Sigma_1^0}{D_2^0} & 1 & 0 & 0 \end{pmatrix}; \quad \frac{1}{v_0} = \frac{\Sigma_1^0}{D_1^0}; \quad \frac{1}{v_0} = \frac{\Sigma_2^0}{D_2^0}$$

$$Q(x) = \begin{pmatrix} 0 \\ 0 \\ \frac{S_1(x)}{D_1^0(x)} \\ \frac{S_2(x)}{v_0 D_2^0(x)} \end{pmatrix}$$

and  $-(x)$  are vectors,  $y = \int_0^x p(t) dt$ . The system ( ) can be solved by the usual procedure: First the homogeneous system  $\frac{dy}{dy} = 0$  is solved and then a particular solution of ( ) is sought. The general solution of ( ) is then obtained as the sum of both.

SUBMITTED: April 27, 1961

Cur: 3/3

GARIN, V. P.; GILFLOV, M. A.; KHLIMOV, N. .

"On the problem of the construction of the theory of the  
perturbation."

Report number 1000. In: "On the problem of the construction of the  
theory of the perturbation."

RECEIVED, 11/11/1961, 11/11/1961.

"The following is a copy of the original document as received from the  
distribution of the document."

RECEIVED, 11/11/1961, 11/11/1961, 11/11/1961, 11/11/1961, 11/11/1961,  
11/11/1961, 11/11/1961, 11/11/1961, 11/11/1961, 11/11/1961, 11/11/1961,

L 05647-67 EWT(m) JR

ACC NR: AP6021524

SOURCE CODE: UR/CO89/66/020/006/0478/0482

AUTHOR: Glushkov, Ye. S.; Ponomarev-Stepnov, N. N.

ORG: none

TITLE: Experimental study of modifying the energy release curve of reactors by redistributing the fissionable material

SOURCE: Atomnaya energiya, v. 20, no. 6, 1966, 478-482

TOPIC TAGS: nuclear reactor power, nuclear reactor moderator, beryllium, enriched uranium, reactor neutron flux, multiplication factor

ABSTRACT: The authors report certain results of an experimental study of adjusting the distribution of energy release through the reactor by redistributing the fissionable material so as to optimize the reactor design. The experiments were carried out with critical assemblies in which the moderator was beryllium oxide and the fuel elements were teflon-4 foils containing 90% enriched uranium as a filler. The critical assemblies were rectangular in form. The fuel elements were arranged in horizontal layers and distributed over the height of the assembly. The total number of fuel elements in each layer was constant, and their distribution along one of the horizontal directions was varied. The reactor was made critical for each distribution of the fuel elements by changing the height of the assembly and its width, keeping its length and the thicknesses of the reflectors constant. The distribution of the thermal-neutron flux was measured for each assembly with the aid of indium foils. The experi-

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ACC NR: AP6021524

ments were made for four distribution profiles of the fissioning material (uniform, symmetrical with higher concentration in the center of the active zone, symmetrical with high concentration at the periphery, and asymmetrical). The space-energy distribution of the neutrons was calculated for each assembly in the diffusion many-group approximation (16 groups). The uranium concentration distribution was such that the heat release distribution per unit mass was uniform. The group calculations and the experimental results were in satisfactory agreement. Similarly, the values obtained for the effective multiplication factor obtained during the course of the calculations and in the experiment were in agreement. It is concluded that the distribution of energy release can be modified by varying the concentration of the fissioning material in real reactors, too. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 18/ SUBM DATE: 26Oct65/ ORIG REF: 005/ OTH REF: 004

Card 2/2 *eqh*

ROZHKOVSKIY, D.A.; GLUSHKOV, Yu.I.; DZHAKUSHEVA, K.G.

Nebula Omega and its environs according to photographs obtained  
on the 50 cm. Maksutov telescope. Izv.Astrofiz.inst.AN Kazakh.  
SSR 14:19-33 '62. (MIRA 15:8)  
(Nebulae)



DZHAKUSHEVA, K.G.; GLUSHKOV, Yu.I.; MIKHAYLOVA, N.V.; MGBHAYEVA, V.Ye.;  
ROZHKOVSKIY, D.A.

Study of the astroclimate of the Alma-Ata region. Trudy  
Astrofiz. inst. AN Kazakh.SSR 4:5-48 '63. (MIRA 16:11)

GLUSHKOV, Yu.I.

Polarization and continuous spectrum of NGC 2468. Trudy Astrofiz.  
inst. AN Kazakh. SSR 5:277-284 1965. (MIRA 18:6)

LOSEV, Izrail' Aleksandrovich; PUKHOV, Anatoliy Aleksandrovich; GLUSHKOV, Yu.M., nauchnyy red.; ZAVEL'SKAYA, V.M., red. izd-va; KONTOROVICH, A.I., tekhn. red.

[Electrical equipment of workboats and floating cranes] Elektrooborn-  
dovanie sudov i plavuchikh kranov tekhnicheskogo flota. Leningrad,  
Gos. soiuзное izd-vo sudostroit. promyshl., 1961. 326 p.

(MIRA 14:8)

(Workboats--Electric equipment) (Floating cranes--Electric equipment)

NOVOKHATKA, D. A.; GLUSHKOVA, A. A.; CHETVERIKOVA, N. M.

Reaction of phenol with methylacetylene in the presence of boron  
fluoride compounds. Zhur. VKHO 7 no.5:586 '62.

(MIRA 15:10)

1. Lisichanskiy filial Gosudarstvennogo proyektного i nauchno-  
issledovatel'skogo instituta azotnoy promyshlennosti.

(Phenol) (Propyne)

I 21186-66 EWT(m)/EWP(1)/T RM

ACC NR: AP6009708

(A)

SOURCE CODE: UR/0064/66/COO/003/0015/0016

AUTHOR: Novokhatka, D. A.; Matyushenskiy, B. V.; Glushkova, A. A.; Seraya, V. I.

ORG: none

TITLE: Preparation of diphenylolpropane from phenol and methylacetylene

19  
13

SOURCE: Khimicheskaya promyshlennost', no. 3, 1966, 15-16

TOPIC TAGS: bisphenol A, bisparahydroxyphenylpropane, diphenylolpropane, polycarbonate phenol, methylacetylene, boron trifluoride, manganese sulfate

ABSTRACT: A new preparative method has been developed for high purity 2,2-bis(4-hydroxyphenyl)propane (bisphenol-A), suitable for making polycarbonates. The method is based on the alkylation of phenol with methylacetylene in the presence of boron trifluoride as catalyst. Preliminary study indicated that the yield of bisphenol-A depends on the phenol:methylacetylene molar ratio and on temperature, and that the reaction is promoted by salts of manganese, iron or bismuth taken in small amounts, i.e., 0.04%. Water inhibits the reaction. The optimum conditions are: temperature, 45-50C; phenol:methylacetylene molar ratio, 12:1; BF<sub>3</sub>, 2.5%; MnSO<sub>4</sub>, 0.04% (both on the phenol). The catalyst can be recovered from the residual phenol in the form of a phenol complex. A flow diagram and description of the process are given in the original. The experiments conducted on a pilot plant indicated that the bisphenol-A yield is 89%, if 90% methylacetylene is used; the yield can be increased to 93-95%.

Card 1/2

UDC: 547.631.4'211.07:542.973:546.273'161

L 21186-66

ACC NR: AP6009708

(on phenol reacted), if 99% methylacetylene is used. The cost per ton of bisphenol-A is calculated to be 8.2% lower than that produced by the hydrochloric acid method. [E]  
Orig. art. has: 1 figure and 1 table.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4222

Card 2/2 BK

DOLIVO-DEBROVOL'SKIY, L.B.; GLUSHKOVA, A.I.; KUZMANINA, T.N.;  
EL'PINER, L.I.; YAKOVLEV, V.K.

Effect of biomycin and penicillin on the vital activity of  
some algae. Biul. MOIP. Otd. biol. 67 no.1:154-155 Ja-F '62.  
(MIRA 15:3)

(ALGAE)

(AUREOMYCIN)

(PENICILLIN)

AUTHORS:

Sharovskiy, L. I. , Kollonova, L. A. , Glazova, A. S.

TITLE:

A Method for the Growing of Alkali-Halide-Phosphors for Scintillation Counters (Metodika vyrashchivaniya shchelochno-galogenidnykh fosforov dlya stsintillyatsionnykh schetnikov)

PERIODICAL:

Izvestiya AN SSSR Seriya Fizicheskaya, 1968, Vol. 12, No. 1, pp. 3 - 11 (USSR)

ABSTRACT:

The method worked out here for the growing of monocrystals is based on a modified method by Stockbarger. Crystallization is carried out from the melt in soldered cylindrical amples of quartz-glass. In this variant the difficulty connected with the desorption of the activator no longer exists. At the same time, a complete isolation of the salt from atmospheric humidity is attained, and thus the possibility of a chemical decomposition is excluded. The velocity with which the monocrystal is grown is determined by the placement of the ampule against the furnace. The furnace is an echelon furnace and is divided into two sections by a ring wall. At the tip of the ampule-cone an inductor is placed which, in the further process, imparts the orientation to the entire crystal. It is necessary that in the crystallization zone, at the level of the ring wall or somewhat higher, the temperature distribution

Card 1/5

1-1-76

# A Method for the Growing of Alkali-Halide-Phosphors for Scintillation Crystals

in the cross section has the shape of a parallelepiped of revolution with the tip in the center of the melt, walls of the melt containing the crystallization begins from a uniform center at the tip of the quartz ampule and all admixtures not taken up by the crystal are displaced upwards to the melt and to the walls of the vessel. The constancy of the temperature in the furnace is maintained by a controlling potentiometer by means of the connection of a series resistance. A platinum-platinum rhodium-thermocouple serves as a transmitter for the potentiometer. The isotherm of the growth in the crystal must be unchanged during the entire process of growing. In the second chapter the activator-distribution in the crystal phosphor is investigated. The concentration of the additions in the various parts of the monocrystal does not remain constant in all those cases in which in the growing of the crystal from the melt the compositions of the solid and the liquid phase with regard to the equilibrium conditions are not in agreement. Most frequently the distribution coefficient of the introduced and the accidental admixtures between these two phases is smaller than one. Additional factors are impressed upon the equilibrium of transfer of the distribution of additions. These factors are dependent on the crystallization velocity and on the diffusion coefficient of the additions in the melt. It is shown that the amplified

Card 2/5

11-1-1/70

# A Method for the Growing of Alkali-Halide-Phosphors for Scintillation Counters

the scintillation impulses of the given monochromatic  $\gamma$ -radiation, changes with the increase in the activator-concentration in the crystal phosphor. The third chapter deals with the selection of the activator and its dosing. It is shown that the less soluble compounds, in the case of an equal molar concentration of the phosphors, form a hundred times higher concentration of the activator of the additional absorption and luminescence in one unit of volume. It is shown that only part of the introduced activator-additions play the part of an activator in the phosphors. Also, sufficiently pure salts are used, quite transparent noncrystalline phosphors considerably simpler. The last chapter treats the annealing of the crystal phosphors. As the alkali-halide-crystals possess a low thermal conductivity, deformation-forces causing a mosaic structure form during a too rapid cooling. The annealing eliminates this mosaic structure. The noncrystalline must withstand a high temperature and must then be slowly cooled. It is shown that at high temperatures, even though the diffusion coefficient of the additions in the crystal lattice becomes smaller, the

Card 3/5

10-1-1/80

A method for the growing of Alkali-Halide-Phosphors for Scintillation Counters.

-treatment nevertheless, as the test show, does not lead to a regeneration in the composition of the crystal phosphor. In the author's opinion, the most important cause of the decrease in the light-response of the luminescence in polyhedral crystals is the following: the luminescence of the crystal phosphors is the result of a recombination of the electrons with the holes at the contact-surfaces formed by the activator. The luminescence is not or that part of the electrons and holes that reach these surfaces in their motion from the place where they form. A recombination of these contact-surfaces, however, is realized at ordinary temperatures without a radiation. But other inner surfaces not connected with the activator may also occur in the crystal. These are effective traps for the electrons and holes and disturb the emission of light in the scintillation. Good examples for the structure of the crystals. There are different references, 3 of which are Slavic.

Card 4/5

10-1-1/20  
A Method for the Growing of Alkali-Halide-Phosphors for Scintillation Counters

ASSOCIATION: All-Union Institute for Mineral Raw Materials  
(Vsesoyuznyy institut mineral'nykh surov'ts)

AVAILABLE: Library of Congress

1. Crystals
2. Single crystals-Growth

Card 5/5

L 31354-65 EWT(1)/I/EEC(b)-2 IJP(c)/A: MDC/AS(wp)-2/ASD(a)-5/APHL/SSD(a)/  
RAEM(c)/ESD(gs)/ESD(t)

ACCESSION NR: AR5000760

8/0058/64/000/000/0047/0047

SOURCE: Ref. zh. Fizika, Abs 9D351

AUTHORS: Shamovskiy, L. M.; Glushkova, A. S.

TITLE: Growing of spectrometric scintillators

CITED SOURCE: Sb. Stsintillyatory\* i stsintillyats. materialy\*. Khar'kov, Khar'kovsk  
un-t, 1963, 5-12

TOPIC TAGS: scintillator, spectrometry, crystal growth, fluorescence center

TRANSLATION: The authors assume that the fluorescence centers are produced in crystal phosphors as a result of localization of the activating impurities on the structural defects of the lattice. A new technology is proposed for growing NaI(Tl) crystals, starting from this assumption and from the experimentally demonstrated independence of the yield of scintillations in a wide range of variation of the activator concentrations.

Card 1/2

L 31354-65

ACCESSION NR: AR5000760

The crystallization is carried out at a high temperature gradient, thus removing the danger of precipitation of the activator and of contaminating impurities in the form of a separate phase. To reduce the degree of "hydrolysis" of NaI, it is recommended to de-oxidize the melt with reducers whose oxidation products are volatile. It is proposed to exercise control over the annealing of the crystals by monitoring the change in the crystal excitation and glow spectra. T Razumova.

SUB CODE: OP, SS

ENCL: 00

Card 2/2

BREGADZE, I.L.; KORNILOVA, N.F.; SERGEYEVA, A.P.; GLUSHKOVA, A.Ya.

Changes in the absorptive capacity of the peritoneum in exsanguination. Khirurgiia 36 no.2:82-86 P '60. (MIRA 13:12)  
(PEPTIC ULCER) (PERITONEUM)

BLEDNYKH, N.V.; GLUSHKOVA, G.V.; SPASSKAYA, A.S.

Changes in the lability of stimulated tissues due to the effect of  
vitamin B<sub>1</sub>. Trudy Kirov. otd. Vses. fiziol. ob-va i no.1:42-51  
'60. (MIRA 14:8)

1. Fiziologicheskaya laboratoriya Kirovskogo gosudarstvennogo  
pedagogicheskogo instituta imeni V.I.Lenina.  
(THIAMINE)

GLUSHKOVA, I.S.; MIKHAYLOVSKIY, V.S.; FAYNZIL'BER, Ya.I.

Clinical aspects, diagnosis, and therapy of severe cerebrocranial injuries. Vop.neirokhir. 19 no.2:15-22 Mr-Apr '55. (MLRA 3:7)

1. Iz Instituta nevrokhirurgii Ministerstva zdravookhraneniya USSR.  
(HEAD, wounds and injuries,  
clin. aspects, diag. & ther.)  
(WOUNDS AND INJURIES,  
head, clin. aspects, diag. & ther.)

GLUSHKOVA, I.S.; KANYUKA, Yu.I.; KOPYAKOVSKIY, Yu.I.; KOROL', A.P.;  
LAPONOGOV, O.A.; YANOVSKIY, G.I.

Focal and general brain symptoms of supratentorial tumors of varying  
histostructure. Probl.neirokhir. 4:19-32 '59. (MIRA 13:11)  
(BRAIN--TUMORS)

GLUSHKOVA, I.S.; LAPONOGOV, O.A.

Meningoencephalitis with hydrocephalus appearing as a brain tumor.  
Zhur. nevr. i psikh. 61 no.4:517-521 '61. (MIRA 14:7)

1. Institut neyrokhirurgii (dir. - prof. A.I.Arutyunov) Ministerstva  
zdravookhraneniya USSR, Kiev.  
(MENINGITIS) (ENCEPHALITIS) (HYDROCEPHALUS)

GLUSHKOVA, I.S.

Review of A.P. Burlutskii's book "Tumors of the thyroid gland". Vop. neirokhir. 27 no.2:63 Mr-Apr '63.  
(MIRA 17:2)

30V/100

PHASE I BOOK EXPLOITATION

24(7)

"Lvov, Universitet

Materialy I Vsesoyuznogo soveshchaniya po spektroskopii, 1956.  
t. III. Atomnaya spektroskopiya (Materialy of the 10th All-Union  
Conference on Spectroscopy, 1956. Vol. 3: Atomic Spectroscopy)  
Gosvydvo Lvovskogo univ., 1958. 568 p. (Series: Inst.  
fizicheskii sbornik, vyp. 4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Koalitsiya po  
spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.);  
V.S. Fedotkin, Doctor of Physical and Mathematical Sciences;  
V.I. Fabrikant, Doctor of Physical and Mathematical Sciences;  
V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy,  
Candidate of Physical and Mathematical Sciences; L.K. Klimovskiy,  
Candidate of Physical and Mathematical Sciences; V.S. Milyayuk  
(Deceased), Doctor of Physical and Mathematical Sciences; A.Ye.  
Glaumant, Doctor of Physical and Mathematical Sciences;  
M.I. Kuznetsov, Tech. Ed.; T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in  
the field of spectroscopy, as well as for technical personnel  
using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies  
of atomic spectroscopy presented at the 10th All-Union Confer-  
ence on Spectroscopy in 1956. The studies were carried out by  
scientific and technical institutes and include  
extensive bibliographies of Soviet and other sources of rare earths,  
studies cover many phases of spectroscopy: spectral analysis of  
electromagnetic radiation, physicochemical methods for controlling  
uranium production, physical and technical methods for determining  
optics and spectroscopy, absorption theory, spectrum analysis of ores  
and minerals, photographic methods for quantitative spectrum  
analysis of metals and alloys, spectral determination of the  
hydrogen content of metals by means of isotopes, analysis and  
statistical study of variation in the parameters of calibration  
curves, determination of trace elements, spectrum analysis in  
metallurgy, thermodynamic properties of metalloid, and principles and  
practice of spectrochemical analysis.

Card 2/31

471/100

Kirichenko, A.I. Spectral Method for the Determination of  
Sodium and Potassium in Charotte, Dumas Brick, Magnesite,  
and Other Refractory Materials 471

Olshenko, L.A., M.A. Zatin, and A.M. Zhurav. Experimental  
Study of the Relationship Between the Relative Intensity of  
Spectral Lines and the Concentration of the Standard Sample  
483

Gutkins, R.I., and V.S. Ginzukova. Spectrum Analysis of Pure  
Metal Antimony 487

Yenko, V.P., and N.I. Bugayeva. Spectrographic Determination  
of Iron, Aluminum, Calcium, Magnesium, Copper and Nickel in  
Metal Manganese of High Purity 490

Kifanits, Ye.V., and N.I. Bugayeva. Spectrum Analysis of  
Chromium for the Determination of Antimony 491

Card 27/31

MATIS, E.G., entomolog; GLUSHKOVA, L.A., fitopatolog

Bean pests and diseases in Kustanay Province. Zashch. rast.  
ot vred. i bol. 7 no.2:17 F '62. (MIRA 15:12)

1. Kustanayskaya opytnaya stantsiya, Karabalykskiy rayon,  
Kustanayskaya oblast'.  
(Kustanay Province—Beans--Diseases and pests)





G. L. GILKIN, L. E.

**AUTHORS:**

Gilkin, G. L. and Gilkin, L. E. *Journal of Polymer Science, Part A: Polymer Chemistry*, 1976, Vol. 14, No. 1, pp. 1-10.

**TITLE:**

Investigation of the Vapor Pressure and Density of Gaseous Chloroacetylenes. I. Chloroacetylene, Dichloroacetylene, and Trichloroacetylene.

**SYNOPSIS:**

The vapor pressures and densities of gaseous chloroacetylene, dichloroacetylene, and trichloroacetylene were measured at 25°C and 1 atm.

**INTRODUCTION:**

The chloroacetylenes are a class of compounds which have attracted considerable interest in the past few years because of their unique properties and potential applications.

**EXPERIMENTAL:**

The vapor pressures and densities of the chloroacetylenes were measured using a modified static method. The chloroacetylenes were purified by distillation and stored over calcium hydride. The measurements were made at 25°C and 1 atm.

**RESULTS AND DISCUSSION:**

**Table 1**

Compound	Vapor Pressure (mm Hg)	Density (g/L)
Chloroacetylene	11.5	1.25
Dichloroacetylene	1.5	1.45
Trichloroacetylene	0.5	1.65

5/076/66/014/000/002/002  
D015/0004

**Table 2**

Compound	Vapor Pressure (mm Hg)	Density (g/L)
Chloroacetylene	11.5	1.25
Dichloroacetylene	1.5	1.45
Trichloroacetylene	0.5	1.65



BALAMUTOVA, E.A.; SHAKHPARONOV, M.I.; LEL'CHUK, S.L.; LOMOV, A.L.;  
MAL'KOVA, G.N.; MARTYNOVA, M.Ye.; GLUSHKOVA, L.F.

Vapor pressure and density in systems containing organo-  
silicon compounds. Part 2: The systems: methyldichlorosilane-  
methyltrichlorosilane - methylphenyldichlorosilane and  
methylphenyldichlorosilane - methylchlorophenyldichlorosilane -  
methyldichlorophenyldichlorosilane. Zhur.fiz.khim. 34 no.9:  
1016-1019 S '60. (MIRA 13:9)

1. Moskovskiy gosuda-stvennyy universitet im. M.Y. Lomonosova.  
(Silane) (Systems (Chemistry)) (Vapor pressure)

RAPOPORT, Ye.A., inzh.; GLUSEKOVA, L.I., inzh.

Condenser discharge welding of contact brushes. Svar.  
proizv. no.5:35 My '64. (PIRA 18:11)

MONGUN, G.Ye.; MALINOVSKIY, M.S.; GLUSEHOVA, L.V.

Formation of heterocyclic compounds from amines and ethylene glycol.  
Ukr.khim.zhur. 28 no.7:852-854 '62. (MIRA 15:12)

1. L'vovskiy ~~nasudarstvennyy~~ universitet im.Iv.Franko.  
(Heterocyclic compounds) (Amines) (Ethylene glycol)

L 26342-66 EWP(j)/EWT(m) RM

ACC NR: AP6019324

SOURCE CODE: UR/0079/65/035/008/1481/1483

AUTHOR: Zemlyanskiy, N. I.; Glushkova, L. V.

ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet)

TITLE: Synthesis of unsaturated esters of O,O-dialkyldithiophosphoric acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 8, 1965, 1481-1483

TOPIC TAGS: organic synthetic process; phosphate ester, brominated organic compound, insect control

ABSTRACT: With the view to developing substances effective in the control of agricultural pests, the synthesis of esters of O, O-dialkyldithiophosphoric acids with propargyl bromide or allyl bromide in an acetone solution, compounds  $(RO)_2P(=S)-SR'$  (I) were prepared with 90-95% yields. When the reaction was carried out in a benzene solution, the yields were 58-67%. The following compounds were obtained: I (R = Et, R' =  $CH_2-CH=CH_2$ ); I (R = iso-Pr, R' =  $CH_2-CH=CH_2$ ); I (R = n-Pr, R' =  $CH_2-CH=CH_2$ ); I (R = n-Bu, R' =  $CH_2-CH=CH_2$ ); I (R = Et, R' =  $CH_2-C\equiv CH$ ); I (R = iso-Pr, R' =  $CH_2-C\equiv CH$ ); I (R = n-Pr, R' =  $CH_2-C\equiv CH$ ); I (R = n-Bu, R' =  $CH_2-C\equiv CH$ ). They were liquids which could be distilled in vacuo without decomposition and were readily soluble in ether, acetone, benzene and petroleum ether, but practically insoluble in water.

Orig. art. has: 1 table. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 29Jul64 / ORIG REF: 003 / CTH REF: 001

Card 1/1

UDC: 47.26.118

L 51427-65 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) Pr-4/Pr-4 EPL JN/EM  
 UR/0286/85/000/008/0021/0021  
 66.095.02

ACCESSION NR: AP5015487

AUTHOR: Taranenko, A. S.; Glushkova, L. V.

TITLE: A method for producing N,N'-dinitroso-N,N'-diphenyl-n-phenylendiamine.  
 Class 12, No. 170064 ✓

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 21

TOPIC TAGS: diamine, hydrochloric acid, acetone, sodium nitrite

ABSTRACT: This Author's Certificate introduces a method for producing N,N'-dinitroso-N,N'-diphenyl-n-phenylendiamine by treating N,N'-diphenyl-n-phenylendiamine with sodium nitrite in the presence of an acid. The quality of the product is improved by carrying out the process in the presence of hydrochloric acid and acetone.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimikatoz dlya polimernykh materialov (Scientific Research Institute of Chemicals for Polymer Materials)

SUBMITTED: 08Jun64 ENCL: 00 SIB CODE: 02, G:

Card 1/2

L 51427-65

ACCESSION NR: AP5015487

NO REF SOV: 000

OTHER: 000

0

*ml*  
Card 2/2

L 06512-67 EWT(m)/EMP(j) RM  
ACC NR: AP7000480

SOURCE CODE: UR/0079/66/036/006/1118/1121

AUTHOR: Zemlyanskiy, N. I.; Prib, O. A.; Glushkova, L. V.

ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet)

TITLE: Arylation of O,O-dialkyldithiophosphates 1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 6, 1966, 1118-1121

TOPIC TAGS: benzene derivative, sulfonic acid, ester

ABSTRACT: The reaction of certain aryl esters of benzenesulfonic acid with potassium salts of O,O-dialkyldithiophosphoric acids was studied in an effort to expand the methods of producing O,O-dialkyl-S-aryldithiophosphates, promising pesticides with low toxicity for warm-blooded animals and man. Potassium O,O-dialkyldithiophosphates in acetone solution react readily with 2,4- and 2,6-dinitrophenyl esters of benzenesulfonic acid at room temperature, producing good yields of O,O-dialkyl-S-dinitrophenyl esters of dithiophosphoric acids. The potassium O,O-dialkyldithiophosphates do not react with phenyl and mononitro- and monochlorophenyl esters of p-chloro- and p-methylbenzenesulfonic acids even with prolonged heating. Orig. art. has: 1 table. [JPRS: 37,023]

SUB CODE: 07 / SUBM DATE: 06Jul65 / ORIG REF: 004 / OTH REF: 003

Card 1/1 45

UDC: 547.26'118

RESEARCH REPORT

TANANAYEV, I.V.: GLUSHKOVA, M.A.: SEYFER, G.B.

Chemistry of lanthanum ferrocyanides and their application in analytic chemistry. Khim.redk.elem. no.1:58-86 '54. (MLRA 8:3)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova  
AN SSSR.  
(Lanthanum ferrocyanide)

GLUSHKOVA, M. A.

CH  
O

USSR

Physicochemical analysis of systems having value in analytical chemistry. <sup>1000</sup> Study of reaction of formation of aluminum hydroxide by measurement of the apparent volumes of the precipitates. I. V. Tananayev and M. A.

Glushkova. *Trudy Komissii anal. Khim., Akad. Nauk S.S.S.R., Otd. Khim. Nauk* 5(8), 22-53(1954); cf. *Chem. Abstr.* 47, 9319f; 48, 5012a. — The apparent vol. of the ppt. is used to study the pptn. of  $Al(OH)_3$ . The vol. of ppt. is plotted against the ratio  $OH:Al$  in the original mixt. Carbonate-free  $NaOH$  soln., and  $Al(NO_3)_3$  and  $Al_2(SO_4)_3$  solns. contg. no free acid were used. Into a 25-ml. graduated tube introduce the  $Al$  soln.,  $H_2O$ , and  $NaOH$ , in such amts. that after addn. of the  $NaOH$  the vol. is 25 ml. Stopper the tube and then invert approx. 200 times. After a detd. interval read the upper boundary of the ppt. In expts. with const.  $Al$  content (0.01-0.015M) sep. of ppt. begins when the ratio  $OH:Al$  is approx. 3.4. The curve has a max. at  $OH:Al = 3$ . At  $OH:Al = 2.8$ ,  $Al$  cannot be detected in soln. and the vol. of ppt. is much less than at  $OH:Al = 3$ . At  $OH:Al$  somewhat above 4, the ppt. dissolves completely. After 1 hr. the max. could be noticed clearly. After 24 hrs. the vol. of ppt. was const. After several hrs. at room temp. the ppts. which started out with  $OH:Al > 3$  became whiter but the others did not change. If 1-2 ml. concd.  $HCl$  is added to each tube and mixed, the ppts. formed with  $OH:Al < 3$  quickly dissolve but the others remain insol. for 24 hrs. In expts. where the sum of  $Al(NO_3)_3$  and  $NaOH$  concns. always equalled 0.1M, addn. of  $NaNO_3$  (0.5 and 1M) before the  $NaOH$  does not change the general outline of the curve but pptn. begins earlier. With the system  $Al(NO_3)_3-NH_4OH-H_2O$  the vol. of the ppt. is a max. at  $OH:Al = 3$  but the

(over)

1/2  
MET

I. V. TANANAEV

crease sharply when more  $\text{NH}_4\text{OH}$  is added. When  $\text{NH}_4\text{NO}_3$  (0.1 and 0.3M) is added before  $\text{NH}_4\text{OH}$  this max. is displaced to the left immediately after pptn. but on standing re-cores the max. to  $\text{OH}:\text{Al} = 3$ . At  $\text{NH}_4\text{NO}_3 = 1M$  the max. is displaced slightly to the right and vol. of ppt. does not decrease so sharply when excess  $\text{NH}_4\text{OH}$  is added. Pptn. occurs earlier than  $\text{OH}:\text{Al} = 2$ . With  $\text{Al}_2(\text{SO}_4)_3 = 0.01M$  and  $\text{NaOH}$ , pptn. begins approx. where it does with  $\text{Al}(\text{NO}_3)_3$ . Then 2 max. are observed, at  $\text{OH}:\text{Al} = 2.5$  and at 3, with a min. between them. The min. develops more clearly by aging. With  $\text{Al}_2(\text{SO}_4)_3 = 0.03M$  and with  $\text{NaOH}$ , there is only 1 max. at 2.5. For  $\text{Al}_2(\text{SO}_4)_3 = 0.02M$  and with  $\text{NH}_4\text{OH}$ , the first max. remains the same but second max. is less sharp.  $(\text{NH}_4)_2\text{SO}_4$  is added to system  $\text{Al}(\text{NO}_3)_3\text{-NH}_4\text{OH-H}_2\text{O}$  with  $\text{Al}_2(\text{NO}_3)_6 = 0.03M$ . With no sulfate pptn. begins at  $\text{OH}:\text{Al} = 2.5$ . With 0.02M of  $(\text{NH}_4)_2\text{SO}_4$  added the ppt. is stable at  $\text{OH}:\text{Al} = 2$  and the vol. is larger. The max. is still at 3. With  $(\text{NH}_4)_2\text{SO}_4$  at 0.01M this max. is at 2.5-3.7 and a very weak second max. is displaced to the right. At  $(\text{NH}_4)_2\text{SO}_4 = 0.03M$  the first max. is at 2.5-2.7 and the second max. is more noticeable. At  $(\text{NH}_4)_2\text{SO}_4 = 0.1M$  the first max. is at 2.5 and the second max. disappears. In significant concn. of sulfate the max. vol. of ppt. is obtained at a point corresponding to a basic salt, 10  $\text{Al}(\text{OH})_3\text{-Al}_2(\text{SO}_4)_3$ . No Al ions are detected in soln. at  $\text{OH}:\text{Al} = 2.4$ . Existence of second max. depends on many conditions. It is suggested that with a large excess of  $\text{Al}^{3+}$  the ions  $\text{Al}(\text{OH})_2^+$  and  $\text{Al}(\text{OH})_4^-$  are formed. With small excess of  $\text{Al}^{3+}$  colloidal  $\text{Al}(\text{OH})_3$  is formed. Since even in the presence of electrolytes  $\text{Al}(\text{OH})_3$  is not good carrier than  $\text{OH}:\text{Al} = 2$ , this value may be the primary indicator of the point. The intermediate stage would be a colloidal micelle,  $[\text{Al}(\text{OH})_4]_n^{4-}$  for  $\text{NaOH}$  or  $\text{NH}_4\text{OH}$  systems.  $\text{AcO}^-$ ,  $\text{F}^-$  and oxalate cause early pptn. of Al. In the case of  $\text{Al}^{3+}$  as  $\text{Al}(\text{OH})_3$  from hydrated systems by addition of  $\text{NaOH}$ , the curve of NaOH captures the maximum point. Addition of a fresh 0.01M  $\text{NaOH}$  and then another 0.01M  $\text{NaOH}$  of the first max. is supplied.

TANANAYEV, I.V.; GLUSHKOVA, M.A.; SEYFER, G.B.

Ferrocyanide solubility series. Zhur.neorg.khim. 1 no.1:66-68 '56.  
(MIRA 9:10)

1.Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
Akademii nauk SSSR.  
(Ferrocyanides)

AUTHOR: Tananaev, I.V., Seifer, G.B., and Glushkova, M.A. 560

TITLE: Ferrocyanides of Trivalent Iron (G Ferrotsianidakh Trekhvalent-novo Zheleza.)

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry, Vol.II, No.2, pp.268-280. (U.S.S.R.) 1951)

ABSTRACT: In this investigation the behaviour of the cyanides of trivalent iron in systems with lithium, sodium, potassium, rubidium and caesium has been studied by two methods: that of solubility and that of e.m.f. measurement. The equilibrium solutions obtained in the solubility experiments were used for the parallel study of the systems by the e.m.f. method using a platinum electrode with a saturated calomel electrode. From the results obtained conclusions are drawn on the general behaviour of trivalent iron ions in and ferrocyanides of different alkali metals when present together in systems. Differences due to the nature of the individual alkali metals were also noted. The tendency, to all the alkali metals was the formation of mixed ferrocyanides of iron although the nature of these compounds was very different for the different alkali metals. The stoichiometrically normal iron ferrocyanide  $\text{Fe}_4[\text{Fe}(\text{Cn})_6]_3$  is not formed with any of the systems studied. On incomplete precipitation of iron it either becomes adsorbed (systems with  $\text{Li}_4[\text{Fe}(\text{Cn})_6]$ , and  $\text{Na}_4[\text{Fe}(\text{Cn})_6]$ ), or remains

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Ferrocyanides of Trivalent Iron (Cont.)

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in excess (systems with  $K_2(Rb_2, Cs_2)[Fe(CN)_6]$ ), an effect evidently due to coprecipitation of the alkali metal.

$M_4[Fe(CN)_6]$  enters the precipitate as soon as the precipitation of iron is complete even with lithium and sodium. This is especially pronounced with rubidium and caesium. The contents of alkali metal in the precipitate increased according to the series  $K - Rb - Cs$ .

It appears that with potassium, rubidium and caesium mixed salts of the simplest type  $M_4Fe[Fe(CN)_6]$  are formed at first. It is very likely that the salts  $RbFe[Fe(CN)_6]$  and  $CsFe[Fe(CN)_6]$  do exist, but they react easily with  $M_4[Fe(CN)_6]$  to form a second mixed salt of the composition  $M_4Fe_2[Fe(CN)_6]_3$ .

Although the continued adsorption of  $M_4[Fe(CN)_6]$  by the precipitate makes the interpretation of the experimental curves difficult the possibility of the formation of new incongruently soluble mixed salts of definite composition is not excluded.

As regards the strength of the bond in mixed ferrocyanides of iron and alkali metals, the latter can be arranged in the usual series with caesium having the greater strength and lithium the least. Apparently in the mixed salts the alkali metals can mutually replace each other according to the above order. From this point of view mixed ferrocyanides of trivalent iron can be considered as inorganic prototypes of ion-exchange resins.

14 Figures and 2 Tables.

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AUTHOR: Tananaev, I.V. and Glushkova, M.A. 561

TITLE: Mixed Ferrocyanides of Thallium. I. Mixed Ferrocyanides of Thallium with Magnesium, Calcium and Strontium. (Smeshannykh Ferrotsianidakh Talliya, I. Smeshannye Ferrotsianidy talliya s Magniem, Kal'tsiem i Strontsiem).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry, Vol.11, No.2, pp.281-286. (U.S.S.R.) 1967)

ABSTRACT: With the object of embracing as large a number of possible types of compounds formed by ferrocyanides of thallium with the ferrocyanides of other metals, systems for investigation were chosen in such a way that the valency of the metals represented in them should be different. In the present communication results of the study of solubility in the systems  $TlNO_3 - E, [Fe(CN)_6]^{4-} - H_2O$  ( $E = Mg, Ca, Sr$ ) by the physico-chemical analysis method. It was found that mixed ferrocyanides of the type TIE  $[Fe(CN)_6]$  were formed, except with magnesium for which a second mixed salt of the composition  $Tl_{10}Mg_7[Fe(CN)_6]_8$  was isolated. The solubility of the mixed ferrocyanides of thallium and the alkali metals increased from magnesium to strontium being  $2 \times 10^{-3}$ ,  $3.4 \times 10^{-4}$  and  $3.6 \times 10^{-3}$  mol/litre at  $25^\circ C$ . Comparison of data from the literature on the composition of mixed ferrocyanides of alkali-earth and alkali metals and those obtained in the present investigation shows that the analogous thallium compounds we obtained closely

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Mixed Ferrocyanides of Thallium. 1. Mixed Ferrocyanides of Thallium with Magnesium, Calcium and Strontium (Cont.)

resemble them: this is indicated by the fact that they all belong to the single type  $M_2E [Fe(CN)_6]$ . As regards solubility in water, the compounds of thallium considered most closely resemble the corresponding rubidium and caesium compounds.

There are 7 references, one of them Russian.

There are 3 figures and 3 tables.

Received on 22nd October, 1956.

Card 2/2

Glushkova, M. A.

78-3-13/55

AUTHORS: Tananayov, I. V. and Glushkova, M. A.

TITLE: Mixed Ferrocyanides of Thallium. (O smeshannykh ferrotsianidakh talliya.) II. Mixed Ferrocyanides of Thallium with Copper and Nickel. (II. Smeshannyye ferrotsianidy talliya s med'yu i nikel'm.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 586-593. (USSR)

ABSTRACT: This investigation had as its aim to fill the gap in the literature on the nature of the reaction of copper and nickel ions with ferrocyanide ions in the presence of thallium. The potential importance of such an investigation is that the information it provided will be used to decide whether thallium in very low concentration could be isolated from solutions containing certain non-ferrous metals. Ordinary methods of chemical analysis were used in this investigation to study systems consisting of  $Tl^+$ ,  $E^{2+}$  ( $E = Cu, Ni$ ) and  $[Fe(CN)_6]^{4-}$ . It is concluded that the slightly soluble mixed ferrocyanide of thallium and copper,

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78-3-13/35

Mixed Ferrocyanides of Thallium. II.

$\text{Tl}_2\text{Cu}_2[\text{Fe}(\text{CN})_6]_2$ , is formed from the appropriate ions for the whole range of concentrations dealt with. The solubility of the compound formed as a result of the displacement of  $\text{Cu}^{2+}$  ions by  $\text{Tl}^+$  ions from a precipitate of  $\text{Cu}_2[\text{Fe}(\text{CN})_6]$  was found to be so small that a suspension of this precipitate can be used to separate small quantities of thallium from solution. The mixed salt  $\text{Tl}_4\text{Ni}_4[\text{Fe}(\text{CN})_6]_3$  was formed by the reaction of  $\text{Tl}^+$  with  $\text{Ni}^{2+}$  and  $[\text{Fe}(\text{CN})_6]^{4-}$  ions. The solubility of the precipitate of this salt, formed by the reaction of  $\text{Tl}^+$  ions with a precipitate of nickel ferrocyanide is so low that it, too, can be used for separating small quantities of thallium from solution. There are 4 figures, 7 tables, and 6 references 2 of which are Slavic.

SUBMITTED: October 26, 1956.

AVAILABLE: Library of Congress.  
Card 2/2

78-3-14/35

AUTHORS: Tananayev, I. V. and Glushkova, M. A.

TITLE: Ferrocyanides of Thallium. (O Ferrotsianidakh talliya.) III. Mixed ferrocyanides of thallium with uranyl. (III. Smeshannyye ferrotsianidy talliya s uranilom.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 594-599. (USSR)

ABSTRACT: An account is given of the study of the solubility of the system  $TlNO_3 \cdot UO_2(NO_3)_2 \cdot Li_4[Fe(CN)_6] \cdot H_2O$  at  $25^\circ C$ . Solutions of these compounds were used, the molarity of the thallium nitrate solution being determined by precipitating thallium as chromate, that of lithium cyanide by titration of a known volume of the original solution by potassium manganate in sulphuric acid using crystal violet as an indicator. The concentration of the uranium salt was determined by precipitation of  $(UO_2)^{2+}$  in the presence of carbonate-free ammonium nitrate, the precipitate after washing and calcining being weighed as  $U_3O_8$ . No formation of

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78-3-14, 35

Ferrocyanides of Thallium. III.

the simple ferrocyanide of uranyl, the reaction of the ions leading to the formation of two mixed ferrocyanides of thallium and uranium with the compositions:  $\text{Tl}_2(\text{UO}_2)_3[\text{Fe}(\text{CN})_6]_2$  and  $\text{Tl}_4(\text{UO}_2)_4[\text{Fe}(\text{CN})_6]_3$ . All the alkaline metals and thallium can be arranged in the following series with respect to their ability to displace  $[\text{UO}_2]^{2+}$  ions from the precipitate of  $(\text{UO}_2)_2[\text{Fe}(\text{CN})_6]$ :  $\text{Tl} > \text{Cs} > \text{Rb} > \text{K} > \text{Na} > \text{Li}$ , from which it follows that suspensions of this precipitate can be used for separating small quantities of thallium from solution. There are 2 figures, 6 tables, and 5 references 2 of which are Slavic.

SUBMITTED: November 19, 1956.

AVAILABLE: Library of Congress.

Card 2/2

*8/1/1974*  
TANANAYEV, I.V.; GILSHKOVA, M.A.

Thallium ferrocyanides. Part 4: Mixed ferrocyanides of thallium  
with lanthanum and cerium. Zhur. neorg. khim. 2 10:2474-2482  
O '57. (MIRA 11:3)  
(Thallium ferrocyanide) (Lanthanum) (Cerium)

SOV/78-4-7-33/44

5(2)

AUTHOR:

Glushkova, M. A.

TITLE:

On the Reaction of the Formation of the Hydroxide of Trivalent Thallium (O reaktsii obrazovaniya gidrookisi trekhvalentnogo talliya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1657-1660 (USSR)

ABSTRACT:

Whereas the system  $Al(NO_3)_3 \cdot NaOH - H_2O$  and the corresponding systems of gallium and indium have already been investigated (Refs 1,2,3), only very few published data are available for thallium hydroxide, because most investigations (Refs 4-11) deal with  $Tl_2O_3$ . The present paper investigates the formation of thallium hydroxide in the system  $TlCl_3 - NaOH - H_2O$  by means of the method of the solubility and by measuring the apparent volume of precipitations. It follows from table - and figure 1 that the reaction between  $TlCl_3$  and  $NaOH$  is accompanied by the formation of practically pure  $Tl(OH)_3$ . Only in the case of a considerable surplus of  $TlCl_3$  does the precipitate adsorb  $Tl^{3+}$ .

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307/78-4-7-31/46

On the Reaction of the Formation of the Hydroxide of Trivalent Thallium

ions or  $TlCl_3$ . Basic salts, such as occur in Al, Ga, In, do not form, so that Tl in this respect forms an exception. The apparent volume of the precipitates is given by table 2 and figure 2. In the case of an excess of  $TlCl_3$ , the precipitate is, however, compact (probably because of the adsorption mentioned), whereas it is loose at the stoichiometric point. In the case of an excess of alkali, no considerable variation of the volume of the precipitate occurs. There are 2 figures, 2 tables and 12 references, 4 of which are Soviet.

SUBMITTED: April 4, 1958

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88471

S/078/61/006/001/003/019  
B017/B054

5.2200

AUTHOR: Glushkova, M. A.

TITLE: Molybdonitrile Chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1,  
pp. 15 - 17

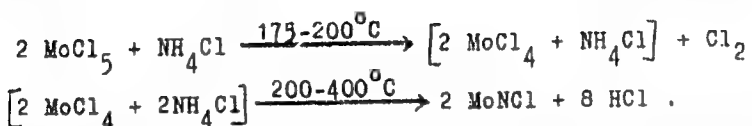
TEXT: The author reports on the synthesis of  $\text{MoNCl}$  from  $\text{MoCl}_5$  and  $\text{NH}_4\text{Cl}$ .  
A mixture of the two reagents (1 : 3) was heated in a crucible furnace in  
argon atmosphere. Black  $\text{MoNCl}$  powder was isolated as end product of the  
reaction of  $\text{MoCl}_5$  and  $\text{NH}_4\text{Cl}$  at 350 and 400°C.  $\text{MoNCl}$  is stable in air,  
not hydrolyzable by water, and insoluble in sulfuric acid. It is nearly  
insoluble in benzene, chloroform, and methyl alcohol. An analysis yielded  
the ratio of Mo : N : Cl = 1.03 : 1.02 : 1 at 400°C. The tetravalence of  
molybdenum in  $\text{MoNCl}$  was confirmed permanganatometrically. During the  
reaction, pentavalent molybdenum is transformed into tetravalent one, and  
 $\text{MoNCl}$  is formed according to the following equations:

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Molybdonitrile Chloride

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B017/B054



The amorphous character of MoNCl was established by X-ray analysis. Molybdenum nitride, MoN, is formed on heating MoNCl up to 900°C. Thus, Mo<sup>4+</sup> shows a higher stability as compared with the nitrile chloride derivatives of P and Nb. I. V. Tananayev, G. B. Seyfer, and Ye. A. Ionova are mentioned. There are 1 figure, 2 tables, and 8 references: 3 Soviet, 4 German, and 1 British.

SUBMITTED: June 21, 1960

Card 2/2

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S/078/61/006/001/004/019  
B017/B054

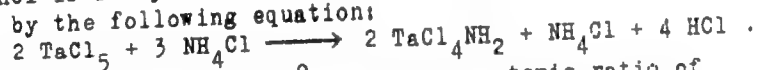
5.2200

AUTHORS: Glushkova, M. A., Yevteyeva, M. M.

TITLE: Tantalum Analogue of Phosphonitrile Chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1,  
pp. 18 - 20

TEXT: The authors studied the reaction between tantalum pentachloride and ammonium chloride. Tantalum pentachloride was produced by chlorination of metallic tantalum in a chlorine flow at 250 - 350°C by I. S. Morozov's method (Ref.11). Analyses of reaction products of TaCl<sub>5</sub> with NH<sub>4</sub>Cl yielded a ratio of Ta : N : Cl = 1 : 2 : 5. The nonreacted excess NH<sub>4</sub>Cl was removed by sublimation. At 250°C, TaCl<sub>5</sub> and NH<sub>4</sub>Cl react with generation of HCl. At 350°C, HCl is fully driven out. The course of reaction at 250°C is expressed by the following equation:



The compound isolated at 350°C has a mean atomic ratio of

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Tantalum Analogue of Phosphonitrile Chloride S/073/61/006/001/004/019  
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Ta : N : Cl = 1 : 0.99 : 2.20. This ratio suggests the existence of  $TaNC l_2$ .  
A phase analysis confirmed the existence of this compound.  $TaNC l_2$  is a  
yellowish-green, air-resistant powder, insoluble in mineral acids with the  
exception of HF. By boiling with concentrated alkali hydroxide,  $TaNC l_2$   
decomposes with formation of tantalum hydroxide. In organic solvents,  
 $TaNC l_2$  is nearly insoluble; no decomposition occurs on heating to  $500^{\circ}C$ .  
There are 1 table and 12 references: 5 Soviet, 2 US, and 7 German. 1/X

SUBMITTED: June 22, 1960

Card 2/2

S/078/61/006/002/004/017  
BC17/B054

AUTHORS: Glushkova, M. A., Petushkova, S. M.

TITLE: Ferrocyanides of Gadolinium

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 2,  
pp. 349 - 353

TEXT: The authors studied the reaction of the gadolinium ion with alkali ferrocyanides by solubility determinations, measurements of electrical conductivity, and analysis of the solid phases. Results of investigation of the system  $GdCl_3 - M_4[Fe(CN)_6] - H_2O$  ( $M = Li, Na, K, Rb, Cs$ ) are given in Fig. 4. It was found that a simple gadolinium ferrocyanide of the composition  $Gd_4[Fe(CN)_6]_3$  was formed in the reaction of  $GdCl_3$  with  $Li_4[Fe(CN)_6]$ . The existence of this compound was confirmed by measurements of electrical conductivity and emf. The reaction of  $GdCl_3$  with  $Na_4[Fe(CN)_6]$  proceeds stepwise. First,  $Gd_4[Fe(CN)_6]_3$  is formed, and then  $NaGd[Fe(CN)_6]$ . Fig. 4

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Ferrocyanides of Gadolinium

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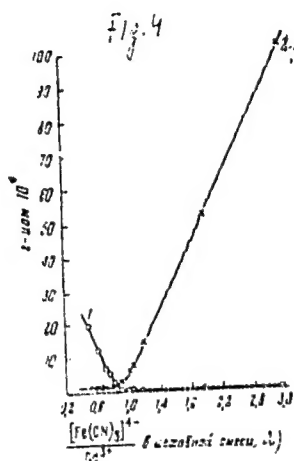
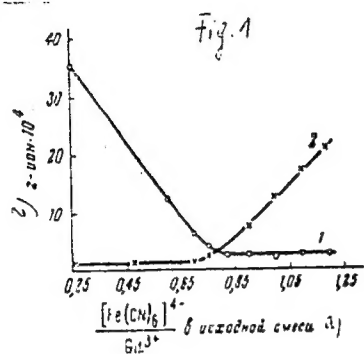
shows the interaction in the system  $GdCl_3 - Na_4[Fe(CN)_6] - H_2O$ , and Fig. 5 shows the change in emf and the potential jumps. In the reaction of  $GdCl_3$  with the ferrocyanides of potassium, rubidium, and cesium, compounds of the type  $MGd[Fe(CN)_6]$  ( $M = K, Rb, Cs$ ) are formed. The solubilities of  $Gd_4[Fe(CN)_6]$ ,  $NaGd[Fe(CN)_6]$ ,  $KGd[Fe(CN)_6]$ ,  $RbGd[Fe(CN)_6]$ , and  $CsGd[Fe(CN)_6]$  in water at  $25^\circ C$  are:  $1.6 \cdot 10^{-4}$ ,  $6 \cdot 10^{-4}$ ,  $2.2 \cdot 10^{-4}$ ,  $1.2 \cdot 10^{-4}$ , and  $2.8 \cdot 10^{-5}$  mole/l. With the solubility determination of  $CsGd[Fe(CN)_6]$ , gadolinium can be determined in pure solutions by the potentiometric method. The authors refer to corresponding investigations carried out at the laboratoriya khimii i analiza redkikh elementov Instituta obshchey i neorganicheskoy khimii AN SSSR im. N. S. Kurnakova (Laboratory of Chemistry and Analysis of Rare Elements of the Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the AS USSR), and mention I. V. Tananayev, M. A. Glushkova, G. B. Seyfer, and G. V. Shevchenko. There are 11 figures, 2 tables, and 8 references: 5 Soviet.

Card 2/4

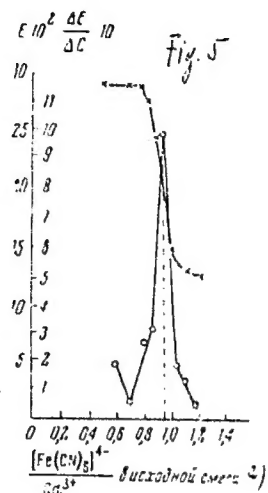
Ferrocyanides of Gadolinium

S/078/61/006/002/004/017  
3017/3054

SUBMITTED: November 19, 1959



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BC17/3054

Legend to Fig. 1: a) in initial mixture; b) g/ion · 10<sup>4</sup>; 1: Ga<sup>3+</sup>; 2: [Fe(CN)<sub>6</sub>]<sup>4-</sup>. Legend to Figs. 4, 5: a) in initial mixture; 1, 2 as in Fig. 1

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